



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,439	08/19/2003	Jayendu Patel	14173-002001	4428

26161 7590 07/12/2005

FISH & RICHARDSON PC  
225 FRANKLIN ST  
BOSTON, MA 02110

EXAMINER

GRAYSAY, TAMARA L

ART UNIT	PAPER NUMBER
----------	--------------

3623

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/643,439

Applicant(s)

PATEL ET AL.

Examiner

Tamara L. Graysay

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-89 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-89 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ( <u>3 pages</u> ). | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Priority***

1. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 119 as follows:

Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged. However, the provisional application upon which priority is claimed fails to provide adequate support under 35 U.S.C. 112 for claims 1-89 of this application.

In particular, provisional application 60/404,419 filed 19 August 2002 does not provide support for claims 1-89.

### ***Information Disclosure Statement***

2. The information disclosure statement filed 15 September 2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

In the present application, a copy of Murthi, a non-patent literature publication, has not been received (listed under Other Documents, Desig. ID AU). Therefore, the document has been lined through on the form PTO-1449.

*Specification*

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

4. The disclosure is objected to because of the following informalities:

- a. [027] Reference character 280 is used for both the cohort data and estimated user parameters. It appears that the estimated user parameters should be reference character 260.
- b. [053] Reference character 280 should be 250 as depicted in figure 4.
- c. [079, last line] There appears to be a typographical error where “works” should be words.
- d. [081, line 4] The phrase “with different” is repeated unnecessarily.
- e. [085, lines 2-4] The sentence appears to contain a grammatical error insofar as the average rating “may differ significantly *from than* for other users” does not make sense.

Appropriate correction is required.

*Claim Objections*

5. Claims 10, 23, 88 and 89 are objected to because of the following informalities:

- a. Claim 10, “the assignment of users” lacks antecedent basis; however, the claim has been treated as a step of probabilistically assigning users to the latent cohort.

Art Unit: 3623

- b. Claim 23 does not end with a period.
- c. Claims 88 and 89 recite software stored on a computer readable media. It appears that applicant intends to claim the structure that permits the functionality to be performed by a computer. Therefore, each claim has been treated as a product claim including computer readable media encoded with a software computer program for causing a computer system to perform functions as set forth in the body of the claims. The preamble of the claims should be amended to reflect the scope of the claims.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 101*

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

- 6. Claims 1-87 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

### *Claims 1-83*

A computer-related process claim is statutory if it is limited to a practical application in the technological arts. A process is an act or series of acts performed upon subject matter to be transformed and reduced to a different state or thing. For example, a method of reconfiguring a computer using a computer system would be statutory so long as the claims recited dynamically changing a subsystem of the claimed computer system, i.e., changing the input/output configuration.

Art Unit: 3623

First, a practical application is one that produces a useful, concrete, and tangible result. In the present application, process claims 1-83 produce a useful, concrete, and tangible result insofar as parameters are computed.

Second, within the technological arts is one that applies, involves, uses, or advances technology. In the present application, process claims 1-83 are drawn to a method (for recommending items) comprising maintaining data and computing parameters. Because the acts are human activities, not performed on any subject matter to be transformed and reduced to a different state, the claims are therefore nonstatutory. In other words, the claims are not within the technological arts.

#### *Claims 84-87*

A computer-related process claim is statutory if it is limited to a practical application in the technological arts. A process is an act or series of acts performed upon subject matter to be transformed and reduced to a different state or thing. For example, a method of reconfiguring a computer using a computer system would be statutory so long as the claims recited dynamically changing a subsystem of the claimed computer system, i.e., changing the input/output configuration.

First, a practical application is one that produces a useful, concrete, and tangible result. In the present application, process claims 84-87 produce a useful, concrete, and tangible result insofar as parameters are computed.

Second, within the technological arts is one that applies, involves, uses, or advances technology. In the present application, process claims 1-83 are drawn to a method for identifying similar users comprising maintaining data, computing parameters, and identifying

Art Unit: 3623

similar users. Because the acts are human activities, not performed on any subject matter to be transformed and reduced to a different state, the claims are therefore nonstatutory. In other words, the claims are not within the technological arts.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-58 and 72-83 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
  - a. The preamble of claim 1 reads, a statistical method for recommending items to users, however, the body of claims 1-58 and 72-83 do not include a step of recommending items. The body of the claims should include steps or actions that are commensurate with the preamble.
  - b. Claim 10 recites the limitation "the assignment of users to the latent cohorts." There is insufficient antecedent basis for this limitation in the claim.
  - c. Claim 27 recites the limitation "the non-specific users." There is insufficient antecedent basis for this limitation in the claim.
  - d. Claim 27 includes the step of computing "prior" probability distributions. The scope of the claim (and dependent claims 28-30) is unclear insofar as how the step is related to the other steps recited in claim 1. Use of the term "prior" infers an earlier occurrence, but the calculating step is after the maintaining step and has not been related to any prior step of

computing probability distributions. Claim 1 includes the steps of maintaining, computing parameters associated with groups, and computing statistical parameters for individual users. Claim 27 further modifies the step of computing parameters associated with groups to include computing prior probability distributions, without setting forth the probability distributions.

- e. Claim 28, the term “one or more users” is indefinite because non-specific users and individual users are both recited in antecedent.
- f. Claim 29, the term “personalized parameters” is indefinite because personalized parameters for individual users and personalized parameters for non-specific users are both recited in antecedent.
- g. Claim 30, the term “personalized parameters” is indefinite because personalized parameters for individual users and personalized parameters for non-specific users are both recited in antecedent.
- h. Claim 52, line 3, the term “the requests in the history” lacks antecedent basis in the claim. The claim does not include requests stored in the history, only the ratings are stored.
- i. Claim 55, “an expected information” is unclear as to what is meant by this term in the claim. Specifically, selecting an item to increase an *expected information* does not appear to make sense.
- j. Claim 72, “the score” lacks antecedent basis in the claim. Claims 59 and 60 include computing a score; however, claim 72 is dependent upon claim 1 which does not.

Art Unit: 3623

- k. Claim 77, “one or more of the multiple items” and “the score” lack antecedent basis in the claim. Claims 59 and 60 include computing a score for each of multiple of the items; however, claim 77 is dependent upon claim 1 which does not.
- l. Claim 79, “the same cohort” lacks antecedent basis in the claim. Claim 2 includes a cohort, however, claim 79 is dependent upon claim 1.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 8. Claims 1-4, 7-16, 19-26 are rejected under 35 U.S.C. 102(b) as being anticipated by

Crotts (article, Does national culture influence consumers’ evaluation of travel services?).

- a. Regarding claim 1, Crotts discloses a statistical method for recommending items to users in one or more groups of users comprising:
  - maintaining user-related data (self administered survey responses) including storing a history of ratings (surveys) of items (airport services, flight, aircraft) by users (consumers born in various countries) in the one or more groups of users (travel services consumers);
  - computing parameters (satisfaction, loyalty, defector) associated with the one or more groups using the user-related data, including for each of the one or more groups of users computing parameters characterizing predicted ratings (p.418, right column, national

Art Unit: 3623

cultural differences were shown to influence satisfaction measures and loyalty measures) of items (travel services) by users in the group (consumers born in various countries);

- computing personalized statistical parameters (attitudinal measures) for each of one or more individual users (consumers from various countries) using the parameters (satisfaction, loyalty, defector) associated with said user's group of users (consumers born in various countries) and the stored history of ratings (surveys) of items (airport services, flight, aircraft) by that user; and,
  - enabling calculation of parameters characterizing predicted ratings of the items by the each of one or more users using the personalized statistical parameters. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation (MPEP § 2106,II,C). The activity or step of enabling merely suggests calculation and does not require the steps to be performed. However, the examiner notes that Crotts does include calculation of predicted ratings of travel services for consumers born in various countries (p.418, left column, the principal implication is consumers from low and middle masculine cultures do not openly complain; those firms service high masculine cultures are likely to voice complaints).
- b. Regarding claim 2, the groups of users include cohorts (consumers born in a country).
- c. Regarding claim 3, the cohorts include demographic cohorts (country a person is born in is a demographic).

- d. Regarding claim 4, the demographic cohorts are defined in terms of a zip or postal code (countries have zip or postal code(s)).
- e. Regarding claim 7, the cohorts include latent cohorts (p.410, right column, countries from a specific culture, e.g., assertive and judgmental vs. tenderness and sympathy).
- f. Regarding claim 8, cohorts are specified in terms of demographics (country a person is born in is a demographic).
- g. Regarding claim 9, cohorts are specified in terms of item (airport services, class of airline ticket) of preferences.
- h. Regarding claim 10, users are probabilistically assigned to latent cohorts (the persons born in a particular country are assigned to a latent cohort insofar as Crotts discloses a particular expectation regarding a consumers' evaluation of travel services).
- i. Regarding claim 11, some users are assigned to multiple cohorts (country of birth, assertive, judgmental, tenderness, sympathy, satisfied, dissatisfied, loyal, defector).
- a. Regarding claims 12-15, Crotts discloses that in addition to movies, the items may be record albums or other consumer items. The items are of no patentable weight in the process claim, because the items are not manipulated by the process in any sense, the items are merely rating targets. As such, the claims do not define over Crotts.
- j. In the alternative regarding claim 15, the Crotts items include gifts (travel services may be gifts).
- k. Regarding claim 16, Crotts includes calculation of an expected rating (p.411, left column, feedback helps identify customer segments who value a company's service).

l. Regarding claim 19, the computing activity being further modified to include adapting the group parameters to each individual is met by Crotts as discussed with regard to claim 1 above. In claim 1 the computing personalized statistical parameters step is performed using the parameters associated with the user's group of users. The modification of this limitation such that adapting the group parameters to each individual is met insofar as "adapting" does not require any step(s) to be performed but merely suggest parameters being used without setting forth how the parameters are adapted.

m. Regarding claims 20-26, the recited claim features do not overcome the merely suggestive language used in claim 1 (and noted in paragraph a, above), which does not require the calculation step to be performed, i.e., the scope of the claims has not been further limited by further limiting a merely suggestive step.

9. Claims 1, 5, 6, 12-15, 20-28, 56, 78-80 and 88 are rejected under 35 U.S.C. 102(b) as being unpatentable over Hey (US-4870579).

a. Regarding claims 1, 13, 78, 79, and 80, Hey discloses a method for recommending items to users comprising:

- maintaining user related data including storing a history of ratings of items (movies) by users (col.4, lines 34-42, ratings are stored in memory 14);
- computing parameters associated with the groups using the user related data, including parameters characterizing predicted ratings of items by users in the group or cohort (abstract, reaction predictions for a selected user are based on weighting values for each item unsampled by the user (applicable to different item in claim 80 of the present

Art Unit: 3623

- application); col.5, lines 22-39, one or more other users are designated as recommending users who contribute to ratings used to make recommendations for items; col.6, lines 48-57, the entire group may be used);
- computing personalized statistical parameters for each user using the parameters associated with the group and the stored history of ratings by that user (col.2, lines 37-58, predicting user reaction based on other users in a group, other items previously sampled by the user, etc.; col.4, lines 42-63, the rating previously predicted for each unsampled item represents the predicted reaction of the selected person);
  - enabling calculation of parameters characterizing predicted ratings of the items using the personalized statistical parameters. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation (MPEP § 2106,II,C). The activity or step of enabling merely suggests calculation and does not require the steps to be performed.
- b. Regarding claim 5, Hey discloses preference to types of film (movies).
- c. Regarding claim 6, the film type is of no patentable weight in the process claim, because the items are not manipulated by the process in any sense, the items are merely rating targets. As such, the claims do not define over Hey.
- d. Regarding claims 12, 14, and 15, the item type is of no patentable weight in the process claim, because the items are not manipulated by the process in any sense, the items are merely rating targets. As such, the claims do not define over Hey.

Art Unit: 3623

- e. In the alternative regarding claims 12, 14, and 15, Hey discloses that in addition to movies, the items may be record albums or other consumer items. Other consumer items include television shows and gifts, as broadly recited in the claims.
- f. Regarding claims 20-26, the recited claim features do not overcome the merely suggestive language used in claim 1 (and noted in paragraph a, above), which does not require the calculation step to be performed, i.e., the scope of the claims has not been further limited by further limiting a merely suggestive step.
- g. Regarding claims 27-28, Hey discloses computing prior probability distributions for users (col.6, lines 58-68+, each recommending user is utilized to adjust the previously established predicted ratings for the group).
- h. Regarding claim 56, the method of Hey includes computing a personalized recommendation (abstract, reaction predictions for a selected user are based on weighting values for each item unsampled by the user).
- n. Regarding claim 88, implementation of the process on a computer using a computer readable medium encoded with instructions to perform the method is met by Hey which operates on a computer and stores the ratings in a memory 14.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 17, 18, 38-42, 57-77, 81-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hey (US-4870579).

a. Regarding claims 17 and 18, the examiner takes Official notice that consideration and/or adjusting data based on risk, i.e., development, regulatory approval, intellectual property protection, etc., are well known in the marketing field in order to provide a robust or complete analysis of marketing data. For example, a routineer in the data analysis field would consider that an item having a high start up cost may not get to market even though a user has expressed an interest in the item. Thus, it is within the level of ordinary skill that the data analyst would adjust a user preference score would be reduced or offset by the high start up cost for the item, i.e., an external preference of the manufacturer or distributor. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hey to include computing a score combining the user preference rating and an external factor, such as start up costs, in order to provide a robust analysis of the marketing data.

b. Regarding claims 38-42, while Hey discloses repeating the computations when a new user is paired with another user group, Hey is not specific as to the regularity of the computing step. The examiner takes Official notice that the timing or frequency of computing parameters is within the level of ordinary skill of a routineer in the field of statistical data analysis and is a matter of choice dependent upon the type and quantity of data that is analyzed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hey to include regular, weekly, event-dependent

computing, such as that which is within the level of ordinary skill, in order to ensure that the data is current and that new or deleted data is taken into consideration during analysis.

c. Regarding claims 57 and 58, the examiner takes Official notice that computing accomplished during a user session or off-line are within the level of ordinary skill of a marketing professional in the field of marketing strategy to best serve the marketing campaign or marketing strategy of an organization. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hey to include capability to compute either during a user session to rapidly market an item that may be of interest to a user or off-line to develop an item that may be of interest to a user and later recommended to the user.

d. Regarding claim 59, the process including computing a score including computing predicted rating for each item using user parameters (for example, step 78, determine rating difference) is met by Hey. However, Hey does not specifically recommend a subset of multiple items. The examiner takes Official notice that recommending a subset is within the level of ordinary skill of a routineer in the field of marketing and is a matter of choice dependent upon the items and the marketing strategy behind the recommendation. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hey to include recommending a subset of items in order to comply with a corporate marketing strategy.

e. Regarding claims 60-71 and 81-83, the particular method of computing a score or rating is within the level of ordinary skill of a data analyst in the field of marketing to determine the most efficient, clear, and effective manner of representing the information that is provided by

the user. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hey to include averaging, weighting, non-linear, extreme value, ranking, threshold, and range analysis in order to represent the information provided by a user in a manner that is efficient, clear, and effective.

f. Regarding claims 72-76, data that is grouped inherently has a distribution, i.e., location or arrangement of continuing or successive objects or events in space or time. As for the computing a score by combining rating and quantity, the examiner takes Official notice that computing a score in such a manner is within the level of ordinary skill of the data analyst in the field of marketing to analyze the data in relationship to other data and to better represent items relative to each other as determined by a marketing strategist of ordinary skill in a particular industry. Further, the consideration of and management of uncertainty, i.e., risk, in a marketing strategy or campaign is well known and within the level of ordinary skill in the field of item marketing. Therefore, it would have been obvious to one of ordinary skill in the art at to compute a score for each item by combining a quantity (a weight or factor) with the predicted rating of an item in order to better represent the items relative to each other as determined by a marketing strategy or campaign.

g. Regarding claim 77, the examiner takes Official notice that consideration and/or weighting based on external preferences not associated with an item user, e.g., environmental, regulatory, cost, transportation, and other factors, are well known in the marketing field in order to provide a robust or complete analysis of marketing data. For example, an item that is has a high start up cost may not get to market even though a user has expressed an interest in the item. Thus, a user preference score would be reduced or offset

by the high start up cost for the item, i.e., an external preference of the manufacturer or distributor. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hey to include computing a score combining the user preference rating and an external factor, such as start up costs, in order to provide a robust analysis of the marketing data.

11. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hey (US-4870579) in view of Thierauf (book, Decision making through operations research).

Thierauf teaches sensitivity analysis (p.193, 195) including posterior analysis of parameters to check whether a basis is optimal and use of Bayes' formula to estimate probability for statistically dependent events. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hey to include posterior probability distribution, such as suggested by Thierauf, in order to check whether the basis of the recommendation is optimal. And further, to compute Bayes' estimate of the parameters, such as suggested by Thierauf, in order to determine the statistical probability for the dependent events using a user group rating or a user historical ratings to predict an event.

12. Claims 31-34 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hey (US-4870579) in view of DeTreville (US-6078740).

DeTreville teaches refinement of item selection including updating parameters based on additional ratings. The prediction ratings are updated based on observation. The purpose of refining data by including updated information and re-calculation of parameters is to ensure

Art Unit: 3623

accuracy of the data that is used to compute parameters for use in marketing strategy or campaign. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hey to include accepting additional ratings and updating parameters, such as suggested by DeTreville, in order to ensure accuracy of the data that is used in a marketing strategy or campaign.

The examiner takes Official notice that it is within the level of ordinary skill of a marketing professional and/or data analyst in the marketing field to determine the scope and content of data, such as including additional data, including updated or revised data, and eliciting additional data, throughout analysis of a marketing strategy or campaign. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hey, to include eliciting additional ratings, accepting additional ratings, accepting updated ratings, and recomputing parameters based on the additional data, in order to ensure a complete and up-to-date analysis of data used in a marketing strategy or campaign.

13. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hey (US-4870579) and DeTreville as applied to claim 31, and further in view of Thierauf (book, Decision making through operations research).

Thierauf teaches sensitivity analysis (p.193, 195) including posterior analysis of parameters to check whether a basis is optimal and use of Bayes' formula to estimate probability for statistically dependent events. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Hey and DeTreville combination to include posterior probability distribution, such as suggested by Thierauf, in order to check whether the basis of the recommendation is optimal. And further, to compute Bayes' update of

Art Unit: 3623

the parameters, such as suggested by Thierauf, in order to determine the statistical probability for the dependent events using a user group rating or a user historical ratings to predict an event.

14. Claims 43-51 and 52-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hey (US-4870579) in view of Atcheson (US-5583763).

Atcheson discloses a method for recommending items including maintaining and storing user preferences which are lists. Inherently the user preference lists (for example, 204) are elicited by providing a place for users to enter their preferences or by asking the user to list preferences in order to ensure consistency in the response format for ease in evaluating the ratings.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hey to include requesting ratings and storing the ratings, such as taught by Atcheson, in order to maintain consistency in the responses from users.

The examiner takes Official notice that the analysis of parameters is within the level of ordinary skill of a routineer in the field of statistical data analysis and is a matter of choice dependent upon the focus of the analysis, i.e., the items considered for recommendation, the users considered for solicitation, etc.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Hey and Atcheson combination to include using user preferences when computing personalized statistical parameters, to include computing parameters associated with groups of users to predict ratings by various groups or users, and to include rating a set of items, in order to properly focus the analysis.

15. Claims 84-87, and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutcliffe (US-6052122).

- a. Sutcliffe discloses a method for identifying similar users comprising:
  - maintaining a history of ratings (col.2, lines 30-54, characteristic and criteria data) of items (col.3, lines 53-65, related to a personal ad, e.g., gender, drinking habits, etc.);
  - computing parameters (col.3, lines 1-3) using the ratings for predicting a match of two users, i.e., group);
  - computing personalized statistical parameters for users using group parameters (col.3, lines 4-20, the computing step is met when user is compared with other users) and historical ratings of items by the user (col.3, lines 1-3users are ranked based on criteria priorities, criteria weighting);
  - identifying similar users (col.3, lines 4-20, match data are provided to the first user).
- b. Regarding claim 85, the match data is based on user ratings for the items (characteristic and criteria data) and selecting similar users (col.3, lines 4-20, search results are provided in an order).
- c. Regarding claims 86-87, the similarity of characteristics and criteria includes social groups (drinkers and nondrinkers for example). The items are of no patentable weight in the process claim, because the items are not manipulated by the process in any sense, the items are merely rating targets. As such, the claims do not define over Sutcliffe.

- d. Regarding claim 89, implementation of the process on a computer using a computer readable medium encoded with instructions to perform the method is met by Sutcliffe which operates on a computer and stores the ratings for manipulation by the matching system 20.

### *Conclusion*

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

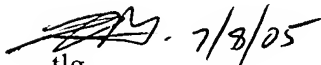
- Fournier (article, The case for experience rating in medical malpractice insurance) teaches use of a priori and posteriori ratings in the insurance industry.
- Robinson (US-5790426) teaches recommendation of items to a user based on similarity values of a subgroup.
- Chislenko (US-6041311) and Sheena (US-6049777) teach grouping similar users and recommending items to users based on neighboring users who are weighted.
- Chou (US-6061658) teaches grouping users based on demographics for purpose of marketing items to the groups.
- Paepke (US-6249785) teaches predicting ratings for books.
- Jacobi (6317722) teaches personalized item recommendations for users. The recommendations are based on purchase history and item ratings.
- Pyo (US-6636836) teaches a computer readable medium encoded with software to compute a list of recommended items for each user.

Art Unit: 3623

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamara L. Graysay whose telephone number is (571) 272-6728. The examiner can normally be reached on Mon - Fri from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz, can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
tlg  
20050705

  
TARIQ R. HAFIZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600